

NOTES

FIFTY-THREE candidates for the Fellowship are "up" at the Royal Society.

THE sum proposed in the Civil Service Estimates to be spent on the main fabric of the new Natural History Museum at South Kensington during the next financial year is 47,476*l.*, being the balance of a sum of 409,466*l.*, the "revise estimate" of the total cost of the erection of the building. It is also proposed to spend 20,000*l.* on "internal fittings." From the reply lately given in the House of Commons to Lord Arthur Russell, it seems that the Botanical and Mineralogical Departments will be transferred into the new building before the close of the year.

At a meeting on March 7 at Cambridge of the general committee of the Darwin Memorial Fund, to decide whether the memorial should assume the form of a bust or a picture, and to select either the sculptor or painter willing to execute such memorial, it was stated that the funds promised amounted to over 400*l.*, which sum would be sufficient to procure either a bust or a picture. After some discussion it was resolved by a large majority that the memorial should take the form of a picture, and Mr. W. M. Richmond was selected as the artist to execute the same.

WE are informed that the committee appointed to receive subscriptions for presenting a bust of Mr. Wm. Spottiswoode, P.R.S., to the Royal Institution, as a testimonial of his valuable services as its treasurer and secretary successively, have engaged Mr. Richard Belt as the sculptor.

SINCE Parliament reassembled the finest example of practical telegraphy that has probably ever been witnessed has been going on between London and Ireland. Two news wires have been worked simultaneously and continuously between London, Dublin, Cork, Belfast, and Londonderry at the unprecedented speed of 130 words per minute. The Post Office authorities have recently been making very great improvements in their fast speed apparatus. The forthcoming International Conference and the success of the American quadruplex system are probably stirring them up to maintain their pre-eminence in this field. England cannot run second to any nation in telegraphy.

WE are greatly disappointed and much surprised to learn that the application of the Scottish Meteorological Society for assistance to establish an observatory on Ben Nevis has been rejected both by the Meteorological Council, with its yearly 15,000*l.*, and the Government Grant Committee, with its 5,000*l.* The former had other matters to attend to, the latter handed the application over to the Council of the Royal Society, labelled "highly commendable." We have recently shown our readers with what heartiness and cosmopolitanism such nationally beneficial undertakings are managed in France; yet in this disgracefully wealthy country, with 15,000*l.* a year expressly devoted to meteorology, a plan of promoting meteorological research that would lead to results of the highest consequence must collapse for want of a paltry 500*l.* to start it. It would be a shame if so really national an enterprise were to depend entirely on private subscription.

MR. MONCURE CONWAY proposes to hold a "Memorial Service" on the late Prof. W. K. Clifford at South Place Chapel, Finsbury, on Sunday morning next. After the service, Mr. Conway will deliver a discourse, taking Prof. Clifford for his subject.

It is stated that the Botanical Exchange Club will have to be dissolved after the next distribution, in consequence of the difficulty of finding any one with the requisite critical knowledge of British plants and the leisure to enable him to perform the duties of curator. The club has been of great service in furnishing a

medium of intercommunication between British botanists; and the annual reports of the curator have frequently been essays of considerable value. It is greatly to be lamented that one result of the increasing attention paid by botanists to the physiological side of the science should be the discontinuance of so useful an institution.

At the annual meeting of the Geological Society, the Wollaston gold medal was awarded to Prof. Bernard Studer, "the father of Swiss geology;" the Murchison medal to Prof. M'Coy, of Melbourne; the Lyell medal to Prof. E. Hébert, of Paris: the Bigsby medal to Prof. E. D. Cope, of Philadelphia; the balance of the Wollaston Donation Fund to Mr. Samuel Allport; the proceeds of the Murchison Geological Fund to Mr. J. W. Kirkby; a moiety of the balance of the proceeds of the Lyell Fund to Prof. Alleyne Nicholson, and the other moiety to Dr. Henry Woodward, F.R.S.

It is stated that Capt. Sir George Nares, K.C.B., has been appointed to be the chief of the Harbour and Marine Department of the Board of Trade, in succession to Rear-Admiral Bedford. Sir G. Nares is now in command of Her Majesty's ship *Alert*, which is on a scientific cruise in the Straits of Magellan. Capt. J. F. L. P. Maclear has been appointed to the *Alert*.

A COMMITTEE has been organised to obtain subscriptions for erecting a statue to Nicéphore Niepce, the inventor of photography. A circular has been published and will be sent to all scientific societies over the world.

THE movement for the propagation of electric lighting in Paris has not abated. A new paper entitled *La Lumière électrique* will be started in a few days under the editorship of M. de Parville. M. Regnier, the inventor of a lamp working by contact will begin experiments at Breguet's workshop. M. Ducretet is busy with his new lamp with a floating positive-carbon in mercury, and the Alliance Company will try Werdermann's on a large scale. The gas company and Jablochhoff are preparing to illuminate the spaces which have been allotted to them. Although the scientific question may be considered settled except under improved electrical conditions the Paris electricians are sanguine that the final verdict will not be given against the electric light.

THE experiments with the electric light recently made in the reading-room of the British Museum have satisfied the trustees of its applicability for the purposes of the room as far as the amount and distribution of light are concerned, although the full number of lamps was not employed. On three occasions the light was turned on at dusk, in order to enable readers to continue their studies without interruption for another hour. As far as could be ascertained they were enabled to work by it without difficulty, even at the tables where the light was weakest. The experiments are discontinued for the present, but a further trial of the light will probably be made some months hence, with the view to utilise it on dark days, and for extending the hours for using the reading-room in the winter.

THE Report by the Regius Keeper of the Edinburgh Botanic Garden for 1878 complains of the want of accommodation in various ways, and of the insufficiency of the present grant. These complaints are not now made for the first time, and we trust they will meet with speedy attention in the proper quarter.

RECENT explorations of the lake-dwellings of the Lake of Geneva prove that they were destroyed by fire during a spring, when the waters of the lake stood at the same level as now. A layer of charcoal from the burnt dwellings is to be found along the whole coast, beneath a layer of sand and gravel.

REMAINS of lake dwellings of the highest scientific interest have been discovered by members of the Donaueschingen Historical Society under the guidance of Dr. B. Spuren. The

dwellings are situated in the so-called Pfohrener Ried, near Donaueschingen. Numerous objects have been brought to light, such as remains of textures, and implements dating from the stone, bronze, and iron ages.

IN the present year the eighteen centuries will be complete, which have elapsed since Pompeii, Herculaneum, and some neighbouring cities were destroyed by a rain of ashes and torrents of lava from Mount Vesuvius. The directors of the excavations at Pompeii intend to commemorate the event in a scientific manner in November next, and have issued invitations to the most eminent Italian archæologists to participate in the celebration.

DURING the night of January 7-8, an earthquake was felt at Alaghir, Caucasus; it consisted of five shocks which had a direction from north to south. An earthquake visited Laibach on February 12. Two severe shocks were felt at 2.42 P.M. within about three or four seconds. The phenomenon was observed in the whole of Carniola and Lower Styria, also in some part of Carinthia and at Trieste. The direction of the undulations was from south to north, and they were preceded by loud subterranean noise; their duration was about five seconds. It is remarkable that this earthquake was observed in Southern Austria on the same day, as one of the Teplitz sources ceased to flow. On February 14, at 2.45 P.M., more shocks were observed at Laibach and Krainburg, but they were extremely weak. Subterranean shocks were also felt at Riva on the Lake of Garda on February 14, as well as at Bischofslaak in Carniola on February 16.

A REMARKABLE phenomenon is reported from Neufchatel. On February 10 the Lake of Neufchatel suddenly assumed a motion like the sea with its tides, only with the difference that the rise and fall of the water succeeded each other in much shorter intervals. The phenomenon began at noon and lasted until 2 P.M. Boys who were playing on the shore were so suddenly surprised by the rising lake that they were up to their knees in water before they had time to escape. In the evening there was a violent thunderstorm, which also visited Berne at the same time.

ROMAN antiquities have been recently discovered in the open space in front of the Votive Church at Vienna. The space is in course of transformation into a public garden. Among the objects found are some rare coins, toga clasps, urns, as well as the remains of tombs and of a bath.

IN the basin of the Teplitz Stadtbad, the recent stoppage of which has caused so much alarm in the charming Austrian watering-place, Roman coins and antiquities have been found. On one of the coins a female bust is represented with the inscription "Sabina Augusta" (wife of the Emperor Hadrian, A.D. 117-138). The source must therefore have been well known to the Romans, and it is quite possible that even before the year 762, when it is first mentioned in Bohemian history, it may have temporarily ceased to flow. Besides the Roman coins, Bohemian and German coins (up to the year 1740) were discovered.

THE *China Overland Trade Report* mentions that a scheme is about to be carried out for establishing a woollen manufactory at Lanchow-fu, in North-Western China. Though Kansuh, the province of which it is the capital, is not populous, the locality has been chosen on account of raw material being plentiful in the neighbourhood. Machinery is said to have been already shipped from Europe, and two German gentlemen have been engaged to superintend the preliminary operations and to start the enterprise.

AT the last meeting of the St. Petersburg Society of Russian Naturalists, M. Grimm made a very interesting communication on the crustaceans of the Caspian Sea. The crustacean fauna of

that sea has some likeness with the faunas of Lakes Baikal and Titikaki, especially as to the richness of both in amphipods, and as to the nearly total want of decapods. But the likeness is closer with the faunas of the European lakes, as well as with the faunas of the Black Sea, and yet more, with the Arctic Ocean and Lake Aral. Altogether, the study of the Caspian crustaceans proves that at a recent epoch the Caspian Sea was in connection with these lakes and seas, and that the connection of the Caspian with the Arctic Ocean and Lake Aral continued until a more recent period than the connection with the Black Sea.

AT the same meeting Prof. Bogdanoff proposed to the Society to undertake the publication of a work comprising all trustworthy data about the ornithology of the northern parts of Russia in Europe. The proposal met with great approval, and a commission consisting of MM. Bogdanoff, Polyakoff, Pleske, and Keppen, was appointed for the preparation of the said work.

AT the last meeting of the Paris Geographical Society, a communication was read by M. Sconzac, a French officer, belonging to the Chinese service on the origin and propagation of the Russian plague. The lecturer contended that this epidemic originated in the province of Yunan, and was carried by travellers *viâ* Mesopotamia. The lecture will be published *in extenso* in the Society's *Bulletin*.

A VERY satisfactory report was presented at the recent annual meeting of the Royal Microscopical Society, which has now been in existence forty years. The members number 437, and the funds are in a flourishing state.

VOL. VII., part I, of the *Proceedings* of the Yorkshire Geological and Polytechnic Society contains a number of important papers on local geology, and one or two of more general interest.

IN the just issued number of the *Proceedings* of the Geologists' Association is the continuation of Mr. W. H. Huddleston's valuable paper on the Yorkshire oolites, while Prof. Bonney contributes some interesting observations on the igneous rocks of Arthur's Seat.

M. FERRY, the new French Minister of Public Instruction, has visited the Sorbonne, the School of Medicine, and other buildings devoted to science, for the purpose of deciding what repairs must be done immediately.

THE Swiss Palæontological Society has just published the fifth volume of its *Abhandlungen*, which contains several valuable papers. Prof. Rüttimeyer gives the conclusion of his most interesting researches into the deer of the tertiary period. Prof. P. de Loriol continues his researches into the Swiss fossil crinoids, and gives the conclusion of a very valuable monograph on the fossils of the Baden formation, a subdivision of the recent Jura formation. Dr. Wiedenheim publishes for the first time a complete description of the *Labyrinthodon rüttimeyeri*, discovered in 1864 in the sandstone of Rieben, at Basel, and M. J. Bachmann describes the fossil eggs from the neighbourhood of Lucerne. Twenty-five fine coloured plates illustrate the papers. The Society was founded in 1874, with statutes and aims much like those of the British Palæontological Society, especially for the study of Swiss palæontology; and the five volumes already published by the Society contain a great diversity of very valuable papers by Professors Rüttimeyer, in Basel, De Loriol, in Geneva, and Renevier, in Lausanne.

THE Swiss meteorological stations have adopted a system of weather warnings. All the territory of Switzerland will be divided for that purpose into eight regions, each of which will have its central station. The information on the state of weather

in Europe, received at these stations, will be graphically represented on maps, and these maps will be exhibited between four and five P.M. at a central point of the town, under glass, for public use. Besides there will be given a prognostic of weather for the following day; and this information will be sent to each commune and person who will pay monthly the sum of 15 francs. This system is already introduced in Zurich and Berne, and the prognostics are correct in eight cases out of ten.

WE have received from Mr. Downing, of Whiskin Street, a neat little cabinet of twenty specimens of rocks, fossils, and minerals to illustrate Geikie's *Geology Primer*. Considering the number and quality of the specimens, and their suitability for the purpose, the cabinet is a wonder of cheapness, and ought to have a wide sale.

IN view of the apparently insurmountable difficulties which attend the completion of the New National Opera House on the Victoria Embankment, the *Globe* understands that all the agents-general for the different colonies have entered into negotiations for the purpose of securing this site for the proposed Colonial Museum.

INTERESTING correspondence has appeared in the British Guiana *Royal Gazette*, we learn from the *Colonies and India*, relative to the qualities assigned to the fruit of the papau-tree. It has been recently asserted, in an article in the *Pharmaceutical Journal*, "that the most interesting property attributed to it is the power of its juice to render bad flesh tender." Mr. Monro, of Georgetown, furnishes certain facts which he says are commonly known to the natives of British Guiana relative to this fruit. A horse tied near one of these trees rapidly loses health, and a stud horse becomes useless. Any pressure on the body of the animal leaves an inelastic indentation. The sap of the tree will soften steel, and before the process of tempering was known in the Colony, the blacksmiths used to drive their brittle chisels and plane vices into the wood, leaving them there for a day or two; and tough meat wrapped in the leaf for only a few minutes becomes tender, and the same thing happens if it be suspended against the tree itself. The seed of the ripe fruit is an excellent vermifuge, and children have a great partiality for it.

IN a recent paper in the *Journal de Physique* complementary of the theory of dew, M. Jamin points out that moist surfaces are subject to two superposed causes of cooling, one radiation (like dry substances), the other evaporation. The difference between the two actions is that the former persists at every temperature, while the latter, at first considerable, decreases and becomes *nil* when saturation is reached (it does not produce dew, but contributes to prepare and accelerate it, for it renders the air both moister and colder). The quantity of heat borrowed from the air by evaporation is very considerable: 1 gramme of evaporated water lowers about one degree the temperature of 2,553 grammes of air (or nearly two square metres' volume). Thus is explained how moist bodies, like plants, especially herbaceous, are cooled much more quickly than dry bodies. The dew forms on them more quickly; once it has commenced it continues by the sole effect of radiation. In driving rapidly down from a plateau into a valley one is often struck with the sudden cold. This cold is probably the effect of more rapid evaporation from the herbs, aquatic plants, and all moist surfaces of the valley. Other facts illustrate the double effect of radiation and evaporation, e.g., the danger of plants in early spring after being moistened by a shower, and the well-known mode of manufacture of ice in Bengal. The rôle of dew is that of moderating and sometimes arresting the nocturnal cooling, and preserving plants from the early frost.

AN interesting lecture on certain enigmatical phenomena of astronomy has been recently delivered by M. Houzeau before

the Belgian Academy of Sciences, of which he is president. The points he takes up are, the apparent enlargement of heavenly bodies near the horizon (not adequately explained by a weakening of the rays, or interposition of terrestrial objects); the supposed satellite of Venus, observed seven times in 119 years, by eminent astronomers, but quite unobserved during the 114 years since; the phenomena connected with Biela's comet; the effects of the earth encountering a comet (may such a thing occur? has it occurred?); and the zodiacal light. The lecture appears in the *Academy's Bulletin* (No. 12 of 1878).

WE have on our table the following books:—"Text-Book of the Steam Engine," T. M. Goodeve (Crosby, Lockwood, and Co.); "The Aborigines of Victoria," 2 vols., R. Brough Smith (Triibner); "Report of the British Association for the Advancement of Science, 1878," Dublin (Murray); "The Circle and Straight Line," John Harris (Wertheimer, Lea, and Co.); "Moore's Columbarium," reprinted by W. B. Tegetmeier (Field Office); "Practical Treatise on the Manufacture of Sulphuric Acid," A. G. and C. G. Lock (Sampson Low and Co.); "Atlas of Histology," Part i., E. Klein and E. N. Smith (Smith, Elder, and Co.); "Geologische Uebersichtskarte des Tirolisch-Venetianischen Hochlandes zwischen Etsch und Piave," 6 Maps, Dr. Edmund Mojsisovics, (Vienna: A. Holden); "Die Dolomit-Riffe, von Sudtirol und Venetien," Heft i. to vi., E. V. Mojsisovics (Vienna: Alf. Holden); "Meteorological Observations made at the Adelaide Observatory, years 1876 and 1877," Ch. Todd; "Journey through Khorassan," 2 vols., Col. C. M. McGregor (Allen and Co.); "Lakes and Mountains of Africa," J. F. Elton (Murray); "On the Annelida Chaetopoda of the Virginian Coast," H. E. Webster; "Fécondation des Fleurs," E. and G. Gevaert (G. Mayolez).

THE additions to the Zoological Society's Gardens during the past week include three Japanese Deer (*Cervus sika*) from Japan, presented by the Viscount Powerscourt, F.Z.S.; a Syrian Bear (*Ursus syriacus*) from West Asia, presented by Dr. J. Huntley; a Green Monkey (*Cercopithecus callitrichus*) from West Africa, presented by Miss E. A. B. Payton; a Pig-tailed Monkey (*Macacus nemestrinus*) from Java, presented by Mrs. J. E. Fenton; a Coati (*Nasua nasica*), an Acouchy (*Dasyprocta acouchy*) from British Guiana, two Mountain Finches (*Fringilla montifringilla*), British Isles, purchased.

SCIENCE IN RUSSIA

WE take from the just issued Annual Report of the St. Petersburg Academy of Sciences for 1878, the following information as to the work done by the Academy during the year in the mathematical and physical sciences.

Prof. Chebyshev has continued his researches into the properties of parallelograms which consist of three elements, and are symmetrical with respect to one axis, these researches already having led him to important results; among them we notice his general formula for determining what are the simplest combined systems which, when set in motion, give a straight line.

Prof. Minding has published two papers, one of which is an important addition to his former researches on curves.

The Pulkova Observatory has published the ninth volume of its *Memoirs*, which contains the micrometrical measurements of double stars by Prof. O. Struve, during forty consecutive years. The value of these very numerous and precise measurements is much increased by the circumstance that they were made during so long a period by the same person, with the same instruments, and on the same methods; the comparison of M. Struve's observations with those of several known astronomers affords a means of reducing all of them to one system.

The transit of Mercury was observed at Pulkova with fourteen telescopes. It is worthy of notice that the observations proved that Mercury does not have such a dense atmosphere as that discovered around Venus.

The interesting researches of the late Prof. Asten into the